



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 19, 2012

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-3305698, issued to ANTERO RESOURCES APPALACHIAN CORPORATION, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

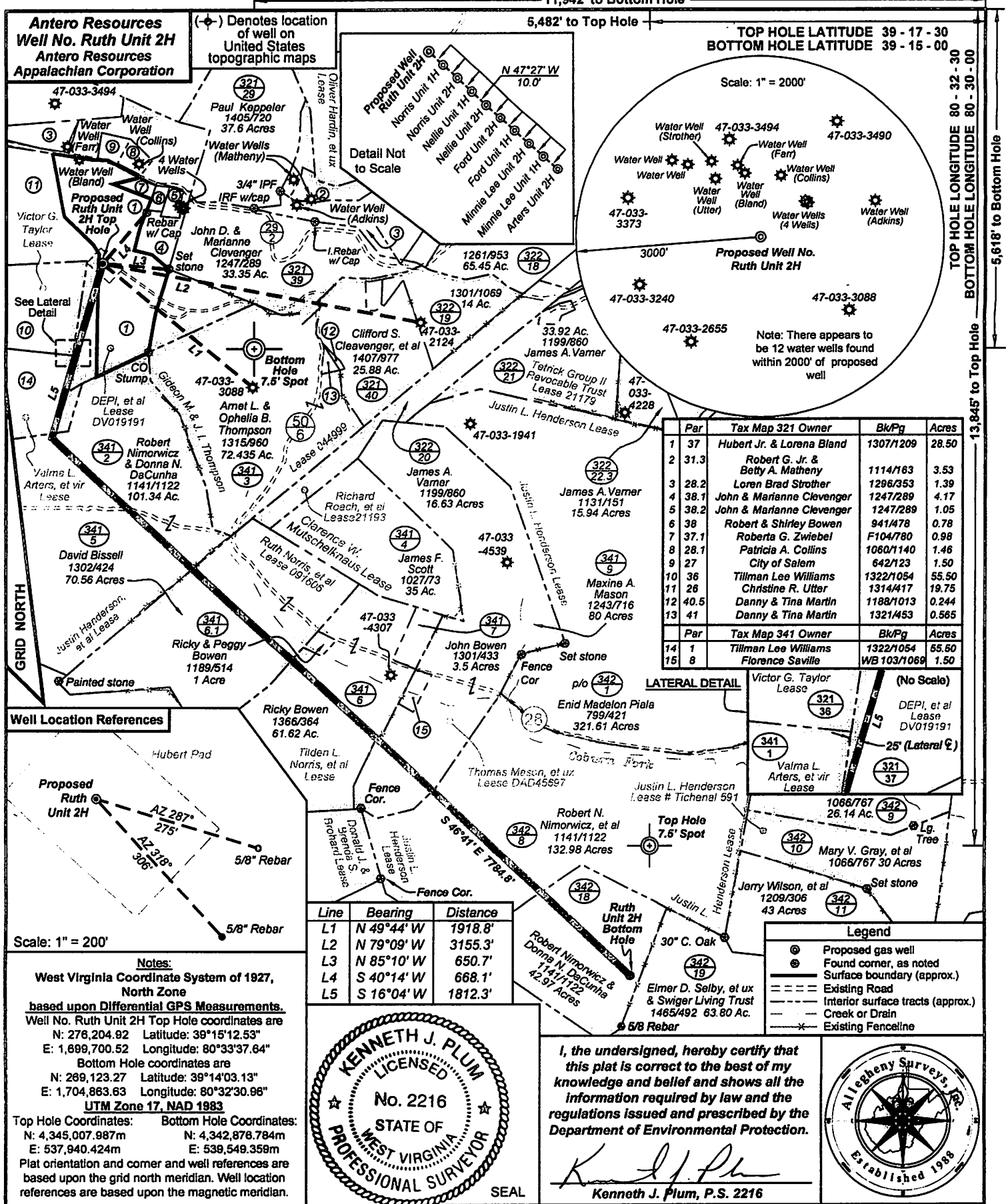
In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: RUTH UNIT 2H
Farm Name: BLAND, HUBERT JR. AND LORE
API Well Number: 47-3305698
Permit Type: Horizontal 6A Well
Date Issued: 12/19/2012

Promoting a healthy environment.



FILE NO: 243-36-TM-12

DRAWING NO: 243-12 Ruth 2H Well Plat

SCALE: 1" = 1200'

MINIMUM DEGREE OF ACCURACY: Submeter

PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

STATE OF WEST VIRGINIA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

OFFICE OF OIL AND GAS

DATE: September 19 20 12

OPERATOR'S WELL NO. Ruth Unit 2H

API WELL NO: 47 - 033 - 5698 HG A

STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL

(IF GAS) PRODUCTION: ☐ STORAGE ☐ DEEP ☒ SHALLOW

LOCATION: ELEVATION: 1376' WATERSHED: Patterson Fork QUADRANGLE: Salem & Big Isaac

DISTRICT: Tenmile Thomas Mason, et ux COUNTY: Harrison 81.5

SURFACE OWNER: Hubert Jr. & Lorena Bland Justin L. Henderson Ruth Norris, et al ACREAGE: 28.50 1026.936

ROYALTY OWNER: DEPI, et al, Valma L. Arters, et vir, Tiden L. Norris, et al LEASE NO: DAD45697; 091808 ACREAGE: 283; 55; 66.12

PROPOSED WORK: ☒ DRILL ☐ CONVERT ☐ DRILL DEEPER ☒ FRACTURE OR STIMULATE ☐ PLUG OFF OLD FORMATION

☒ PERFORATE NEW FORMATION ☐ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) TVD 7,600'

☐ PLUG AND ABANDON ☐ CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: MD 16,200'

WELL OPERATOR: Antero Resources Appalachian Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System

ADDRESS: 1625 17th Street ADDRESS: 5400 D Big Tyler Road

Denver, CO 80202 Charleston, WV 25313



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WELL WORK PERMIT

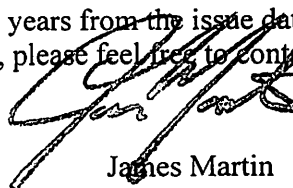
Horizontal 6A Well

This permit, API Well Number: 47-1706154, issued to ANTERO RESOURCES APPALACHIAN CORPORATION, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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James Martin
Chief

Operator's Well No: WEBLEY FORK UNIT 2H

Farm Name: ERWIN, JOHN F.

API Well Number: 47-1706154

Permit Type: Horizontal 6A Well

Date Issued: 12/19/2012

Promoting a healthy environment.

LATITUDE 39°12'30" 252'

LATITUDE 39°12'30"

LONGITUDE 80°42'30"

10,960'

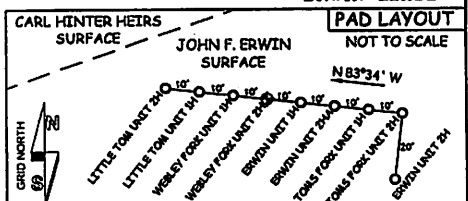
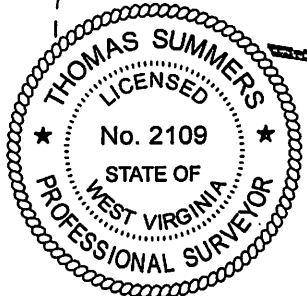
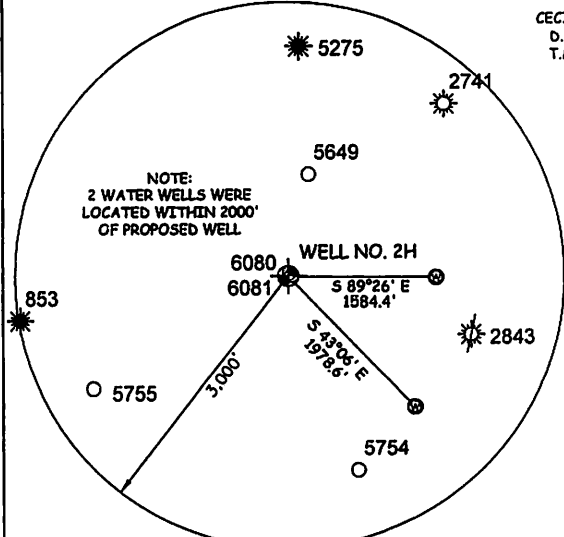
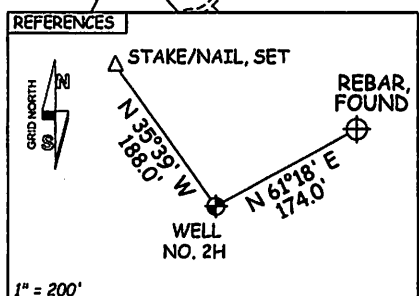
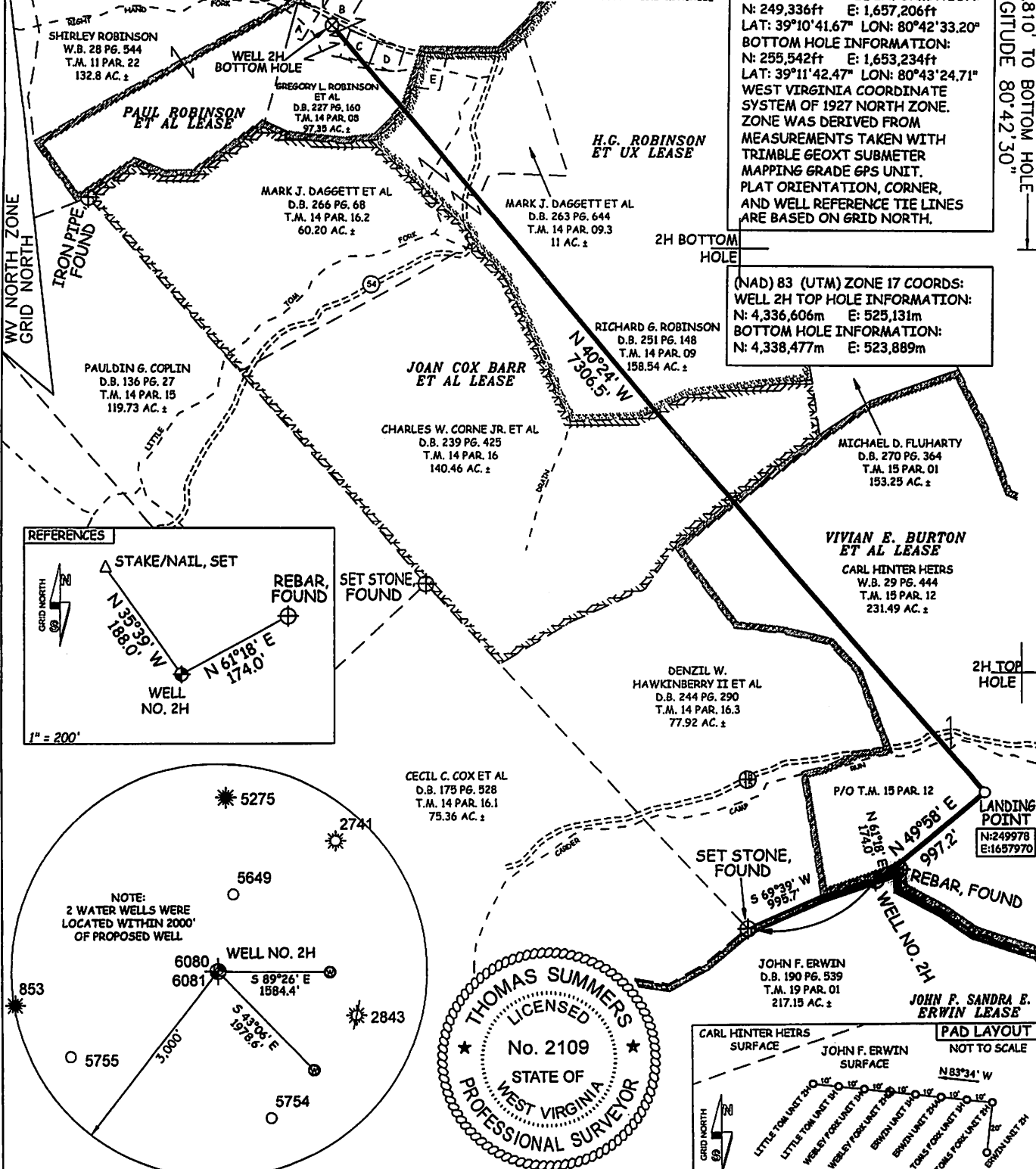
LONGITUDE 80°42'30"

Antero Resources
Appalachian Corporation
Well No. Webley Fork Unit 2H

A- ROBERT V. DEVERICKS D.B. 244 PG. 52 T.M. 14 PAR 08.4 0.74 ACRES
B- ROBERT V. DEVERICKS D.B. 229 PG. 152 T.M. 14 PAR 08.3 1 ACRES
C- GREGORY ROBINSON ET AL D.B. 193 PG. 508 T.M. 14 PAR 08.1 1 ACRES
D- KATHERINE DOTSON D.B. 241 PG. 667 T.M. 14 PAR 08.2 0.91 ACRES
E- HERBERT J. RICHARDS ET AL D.B. 209 PG. 617 T.M. 14 PAR 09.2 1.1 ACRES

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 249,336ft E: 1,657,206ft
LAT: 39°10'41.67" LON: 80°42'33.20"
BOTTOM HOLE INFORMATION:
N: 255,542ft E: 1,653,234ft
LAT: 39°11'42.47" LON: 80°43'24.71"
WEST VIRGINIA COORDINATE
SYSTEM OF 1927 NORTH ZONE.
ZONE WAS DERIVED FROM
MEASUREMENTS TAKEN WITH
TRIMBLE 660XT SUBMETER
MAPPING GRADE GPS UNIT.
PLAT ORIENTATION, CORNER,
AND WELL REFERENCE TIE LINES
ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 4,336,606m E: 525,131m
BOTTOM HOLE INFORMATION:
N: 4,338,477m E: 523,889m



JOB # 12-069WA DRAWING # WEBLEYFORK2H SCALE 1" = 1000' MINIMUM DEGREE OF ACCURACY SUBMETER PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS		I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.		STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415		LEGEND --- Surface Owner Boundary Lines +/- --- Interior Surface Tracts +/- X Existing Fence Found monument, as noted THOMAS SUMMERS P.S. 2109 DATE 09/14/12 OPERATOR'S WELL# WEBLEYFORK UNIT 2H	
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS WELL TYPE: OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> (IF "GAS") PRODUCTION <input checked="" type="checkbox"/> STORAGE <input type="checkbox"/> DEEP <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> LOCATION: ELEVATION 1,227' WATERSHED TOMS FORK QUADRANGLE NEW MILTON 7.5' DISTRICT NEW MILTON COUNTY DODDRIDGE		SURFACE OWNER JOHN F. ERWIN OIL & GAS ROYALTY OWNER JOHN F. & SANDRA E. ERWIN; VIVIAN E. BURTON ET AL; JOAN COX BARR ET AL; H.G. ROBINSON ET UX; PAUL ROBINSON ET AL		ACREAGE 217.15 ACRES +/- LEASE ACREAGE 218 ACRES+; 241 ACRES+; 209.549 ACRES+; 169.8 ACRES+; 80 ACRES+		PROPOSED WORK: DRILL <input checked="" type="checkbox"/> CONVERT <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input checked="" type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input checked="" type="checkbox"/> OTHER PHYSICAL CHANGE IN WELL (SPECIFY) <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,100' TVD 14,900' MD	
WELL OPERATOR ANTERO RESOURCES APPALACHIAN CORP. ADDRESS 1625 17TH STREET DENVER, CO 80202		DESIGNATED AGENT ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313		DIANNA STAMPER CT CORPORATION SYSTEM		COUNTY NAME PERMIT	



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December 17, 2012

WELL WORK PERMIT

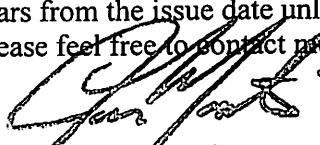
Horizontal 6A Well

This permit, API Well Number: 47-4902236, issued to XTO ENERGY, INC., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: FOUR STATES UNIT A 2H
Farm Name: MARKOVICH, JOHN

API Well Number: 47-4902236

Permit Type: Horizontal 6A Well

Date Issued: 12/17/2012

Promoting a healthy environment.



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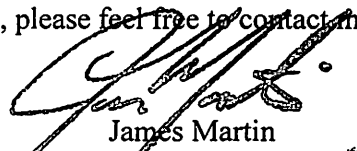
Horizontal 6A Well

This permit, API Well Number: 47-4902237, issued to XTO ENERGY, INC., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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James Martin
Chief

Operator's Well No: FOUR STATES UNIT A 6H

Farm Name: MARKOVICH, JOHN

API Well Number: 47-4902237

Permit Type: Horizontal 6A Well

Date Issued: 12/17/2012

Promoting a healthy environment.



A circular professional seal for Doyle Hupp, Jr., a Licensed Professional Surveyor in the State of West Virginia. The seal features the text "DOYLE HUPP, JR." at the top, "LICENSED" in the center, "No 834" below it, "STATE OF WEST VIRGINIA" at the bottom, and "PROFESSIONAL SURVEYOR" around the inner edge. The seal is surrounded by a decorative border of small dots.

DATE MAY 15 1964
OPERATORS AFFIL NO. FOUR STATES JUNIOR A-B
AP
WELL 47-049-2237 H6f
NO. STATE COUNTY PERM

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS



west virginia department of environmental protection

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December 17, 2012

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-1706155, issued to ANTERO RESOURCES APPALACHIAN CORPORATION, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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James Martin
Chief

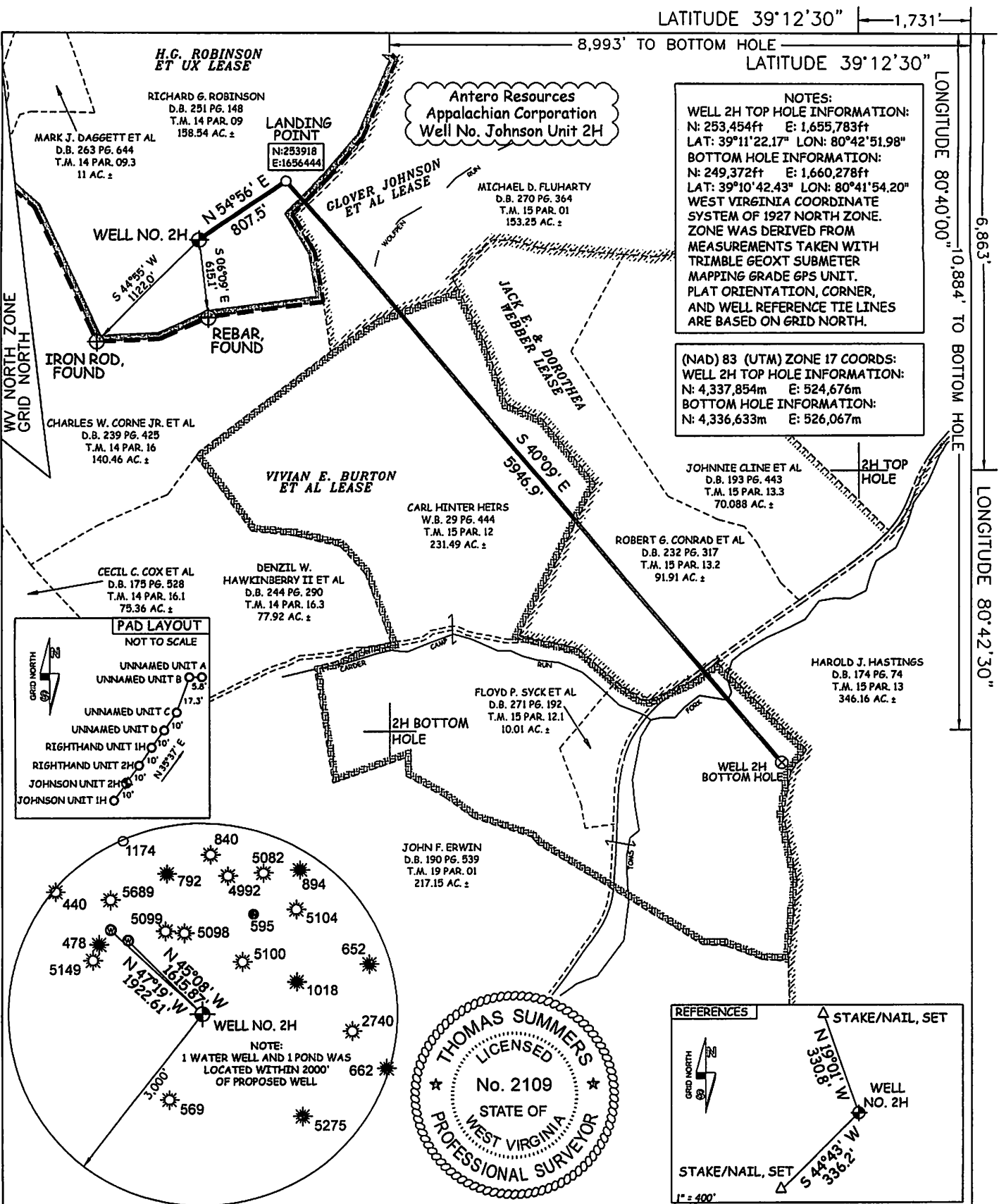
Operator's Well No: JOHNSON UNIT 2H
Farm Name: ROBINSON, RICHARD G.

API Well Number: 47-1706155

Permit Type: Horizontal 6A Well

Date Issued: 12/17/2012

Promoting a healthy environment.



JOB # 12-067WA	I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.	LEGEND
DRAWING # JOHNSON2H		Surface Owner Boundary Lines +/-
SCALE 1" = 1000'		Interior Surface Tracts +/-
MINIMUM DEGREE OF ACCURACY SUBMETER		Existing Fence
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS		Found monument, as noted
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS	STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS	THOMAS SUMMERS P.S. 2109
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL	WILLLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415	DATE 09/21/12
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X		OPERATOR'S WELL# JOHNSON UNIT #2H
LOCATION: ELEVATION 1,154' WATERSHED TRIBUTARY OF LITTLE TOMS FORK		API WELL # 47 - 017 - 6155 H6 A
QUADRANGLE NEW MILTON 7.5' DISTRICT NEW MILTON COUNTY DODDRIDGE		STATE COUNTY PERMIT
SURFACE OWNER RICHARD G. ROBINSON ACREAGE 158.54 ACRES +/-		
OIL & GAS ROYALTY OWNER H.G. ROBINSON ET UX: GLOVER JOHNSON ET AL LEASE ACREAGE 153.25 ACRES +/-		
VIVIAN E. BURTON ET AL: JACK E. & DOROTHEA WEBBER 241 ACRES +/- 444 ACRES +/-		
PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X		
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) PLUG & ABANDON CLEAN OUT & REPLUG		
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,100' TVD 13,300' MD		
WELL OPERATOR ANTERO RESOURCES APPALACHIAN CORP. DESIGNATED AGENT DIANNA STAMPER		
ADDRESS 1625 17TH STREET ADDRESS 5400 D BIG TYLER ROAD		
FORM WW-6 DENVER, CO 80202		CHARLESTON, WV 25313



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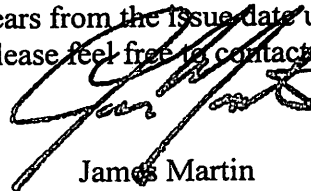
Horizontal 6A Well

This permit, API Well Number: 47-7700598, issued to ENERPLUS RESOURCES (USA) CORPORATION, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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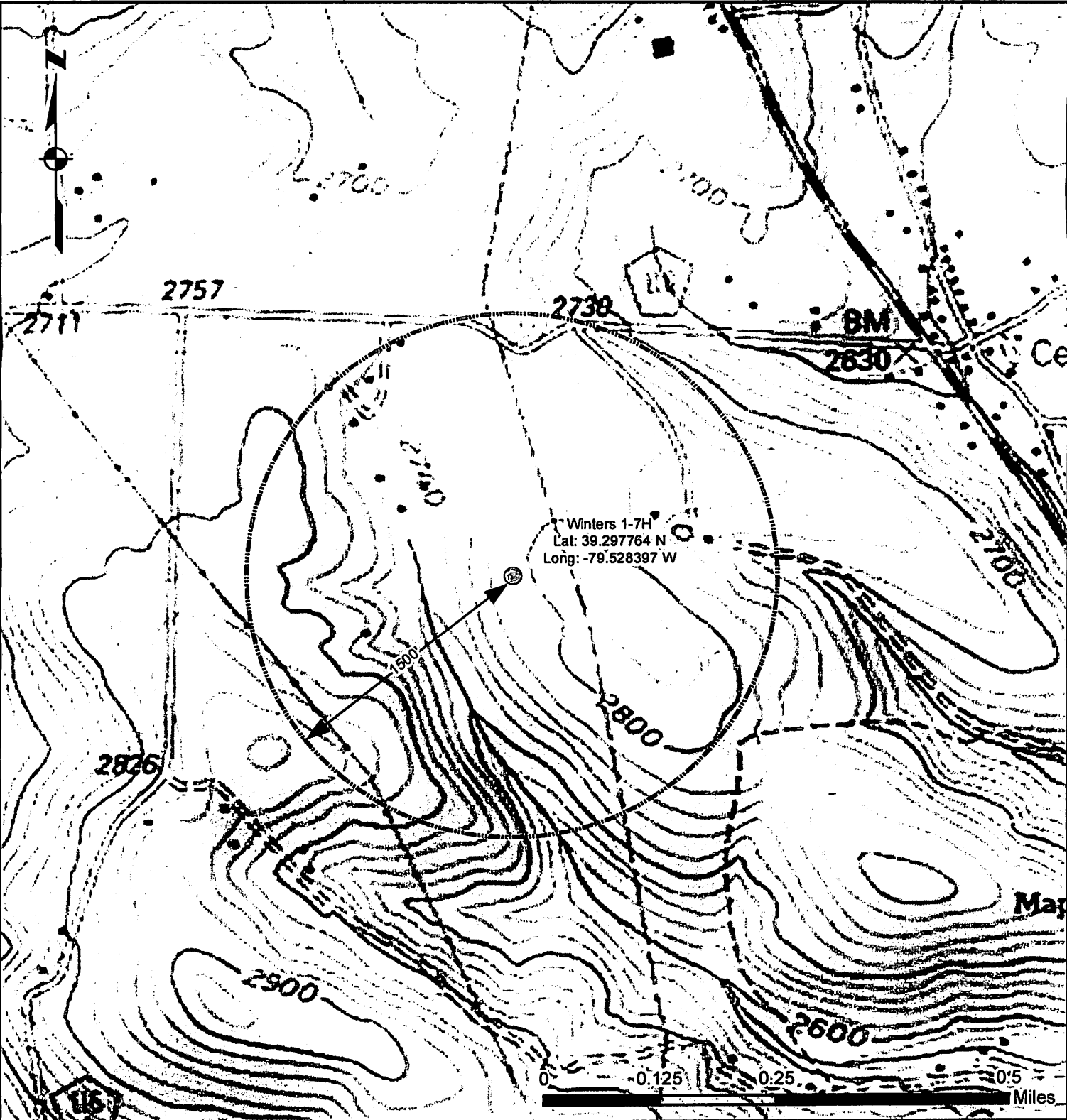
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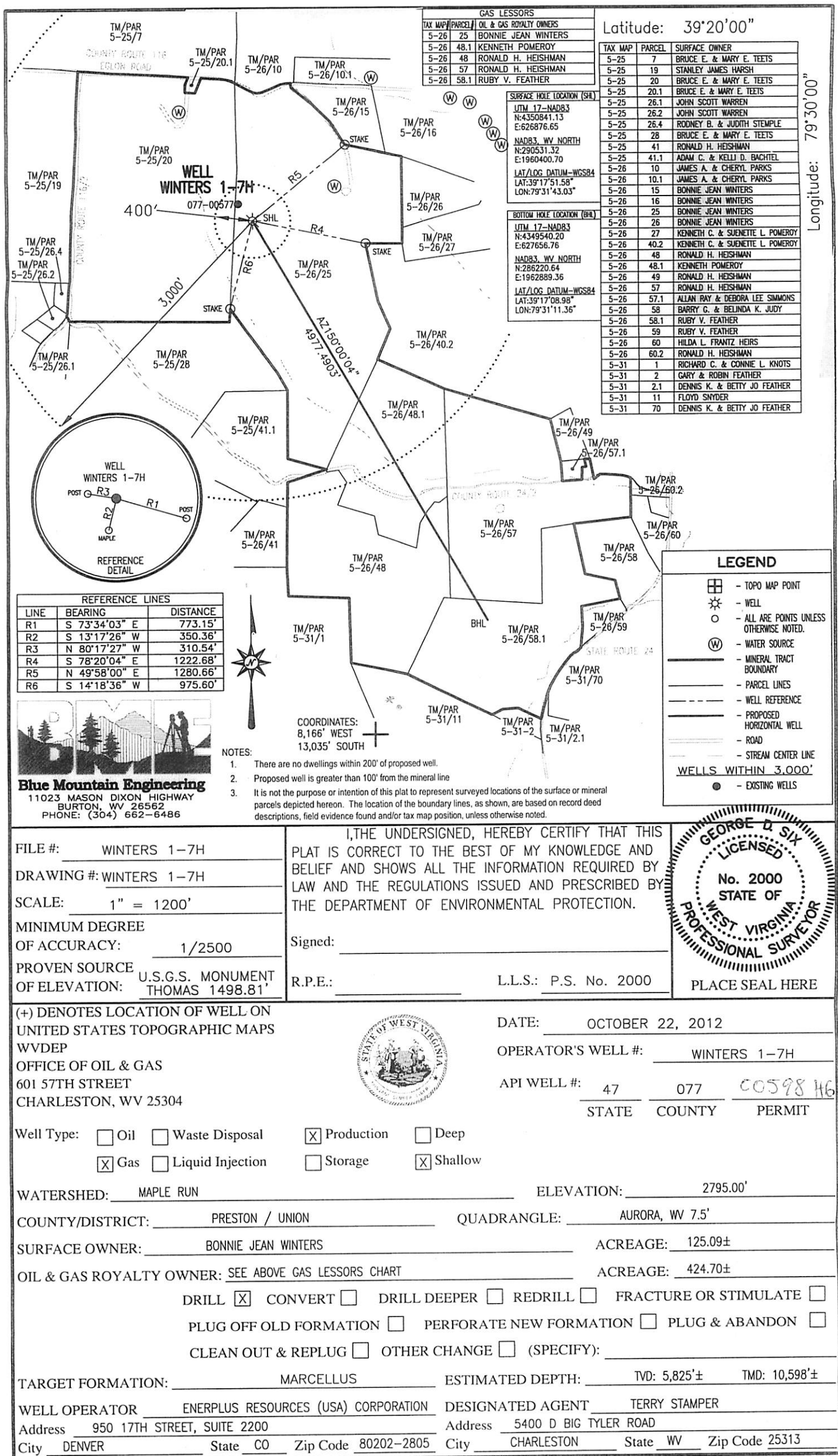
James Martin
Chief

Operator's Well No: WINTERS 1-7H
Farm Name: WINTERS, BONNIE JEAN
API Well Number: 47-7700598
Permit Type: Horizontal 6A Well
Date Issued: 12/17/2012

Promoting a healthy environment.



<p>Map Features</p>	 <p>HCSI ENVIRONMENTAL CONSULTANTS</p>	<p>Winters 1-7H Winters 1-7H WW-9 Addendum</p>
<p>● Winters 1-7H pad</p> <p>USGS 7.5' Quadrangle Name: Aurora</p>	<p>Author: jharris Date: 05/22/2012</p>	 <p>ener</p> <p><small>DISCLAIMER : This Geographic Information System (GIS) and its components are designed as a source of reference for answering inquiries, for planning and for modeling. GIS is not intended, nor does it replace legal description information in the chain of title and other information contained in official government records such as the County Clerk and Records office or the courts. In addition, the representations of locations in this GIS cannot be substituted for actual legal surveys.</small></p>





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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
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December 14, 2012

WELL WORK PERMIT

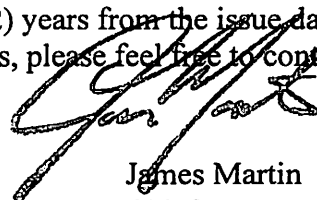
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This permit, API Well Number: 47-1706152, issued to ANTERO RESOURCES APPALACHIAN CORPORATION, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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James Martin
Chief

Operator's Well No: LITTLE TOM UNIT 2H
Farm Name: ERWIN, JOHN F.

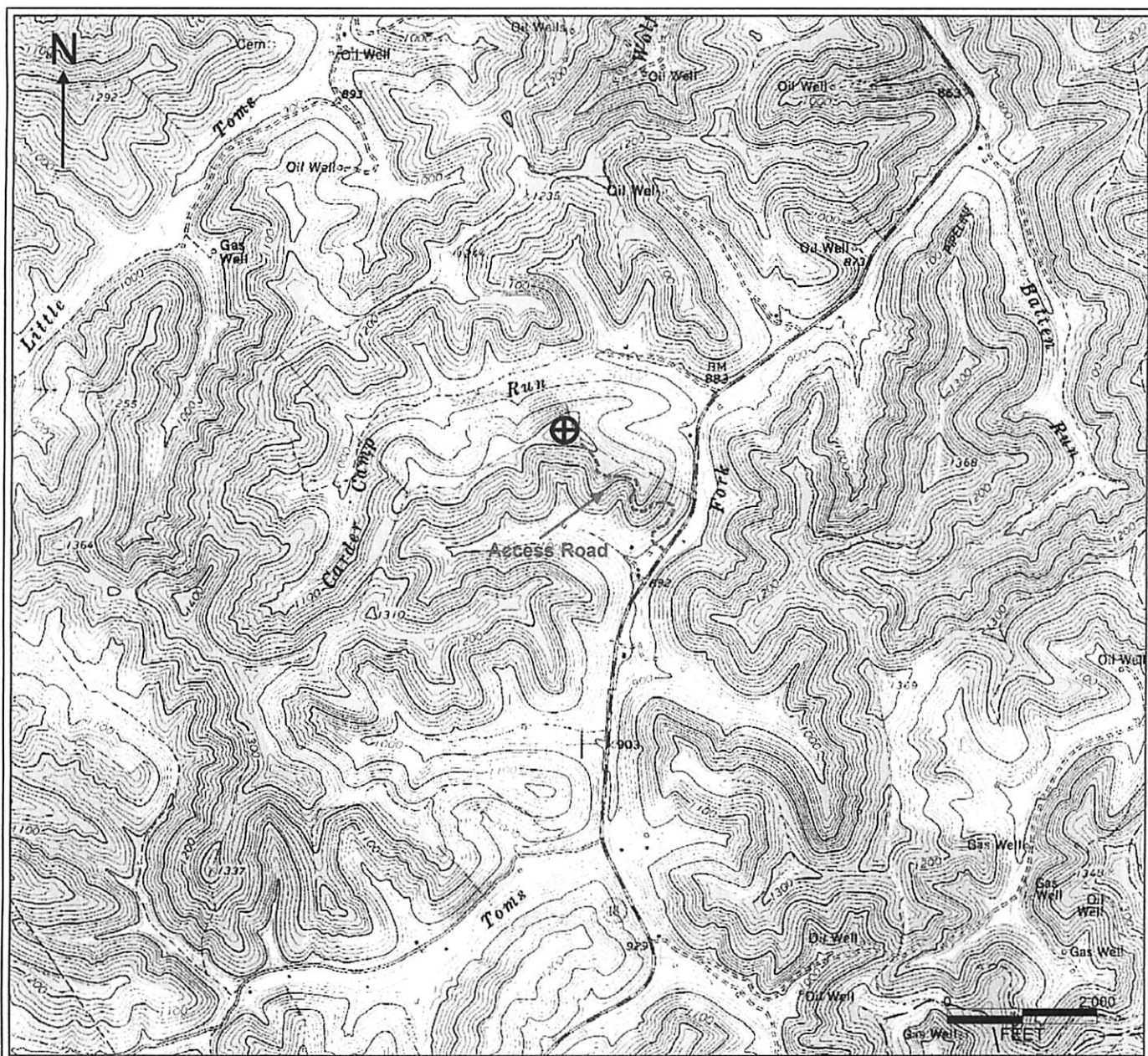
API Well Number: 47-1706152

Permit Type: Horizontal 6A Well

Date Issued: 12/14/2012

Promoting a healthy environment.

17-6152



PETRA 1/4/2012 10:17:06 AM

Antero Resources Corporation

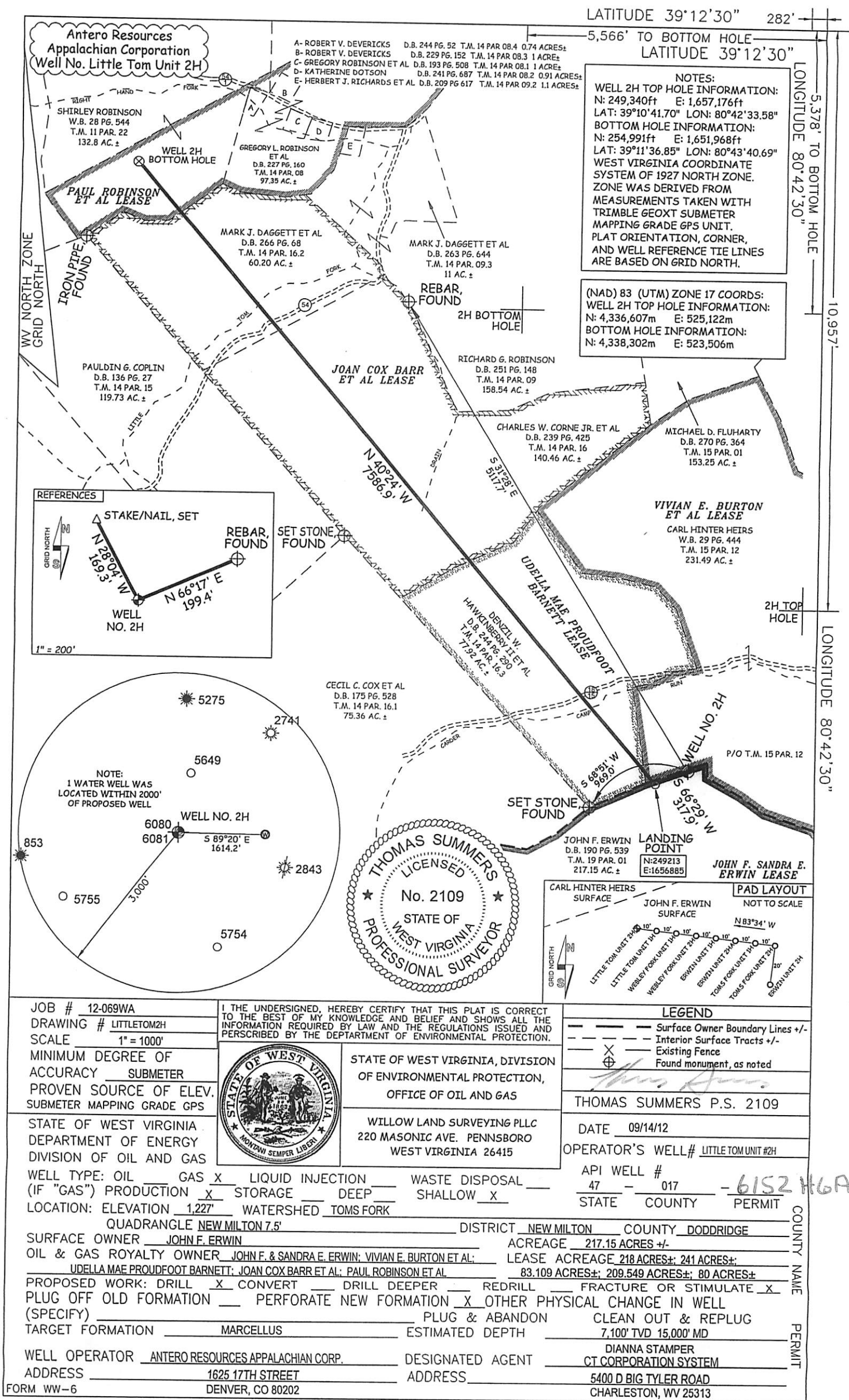
APPALACHIAN BASIN

Little Tom Unit 2H
Doddridge County

0 2,000 4,000
FEET

REMARKS
QUADRANGLE: NEW MILTON
WATERSHED: TOMS FORK
DISTRICT: NEW MILTON

Date: 10/01/2012





west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 14, 2012

WELL WORK PERMIT

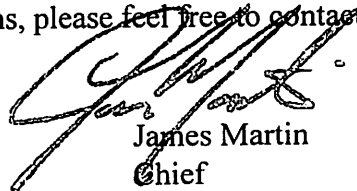
Horizontal 6A Well

This permit, API Well Number: 47-5101585, issued to NOBLE ENERGY, INC., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

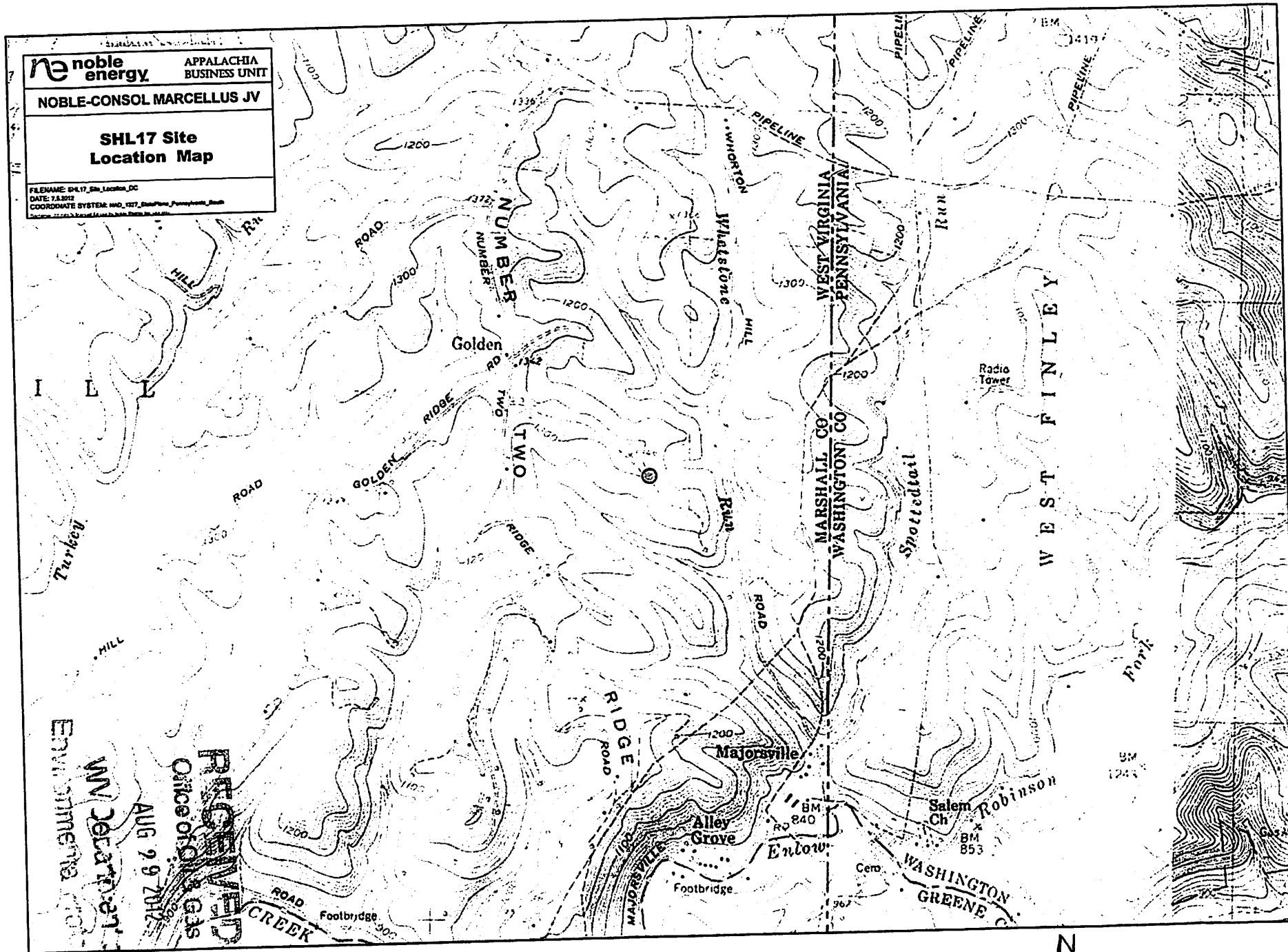
Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: SHL17BHS
Farm Name: JOHN A. GRAY, ET UX.
API Well Number: 47-5101585
Permit Type: Horizontal 6A Well
Date Issued: 12/14/2012

Promoting a healthy environment.



RECEIVED
Office of Oil & Gas
AUG 9 9 2012
WV Department of Environmental Protection

1 inch = 2,000 feet

● SHL 17

DMU
G-4-13



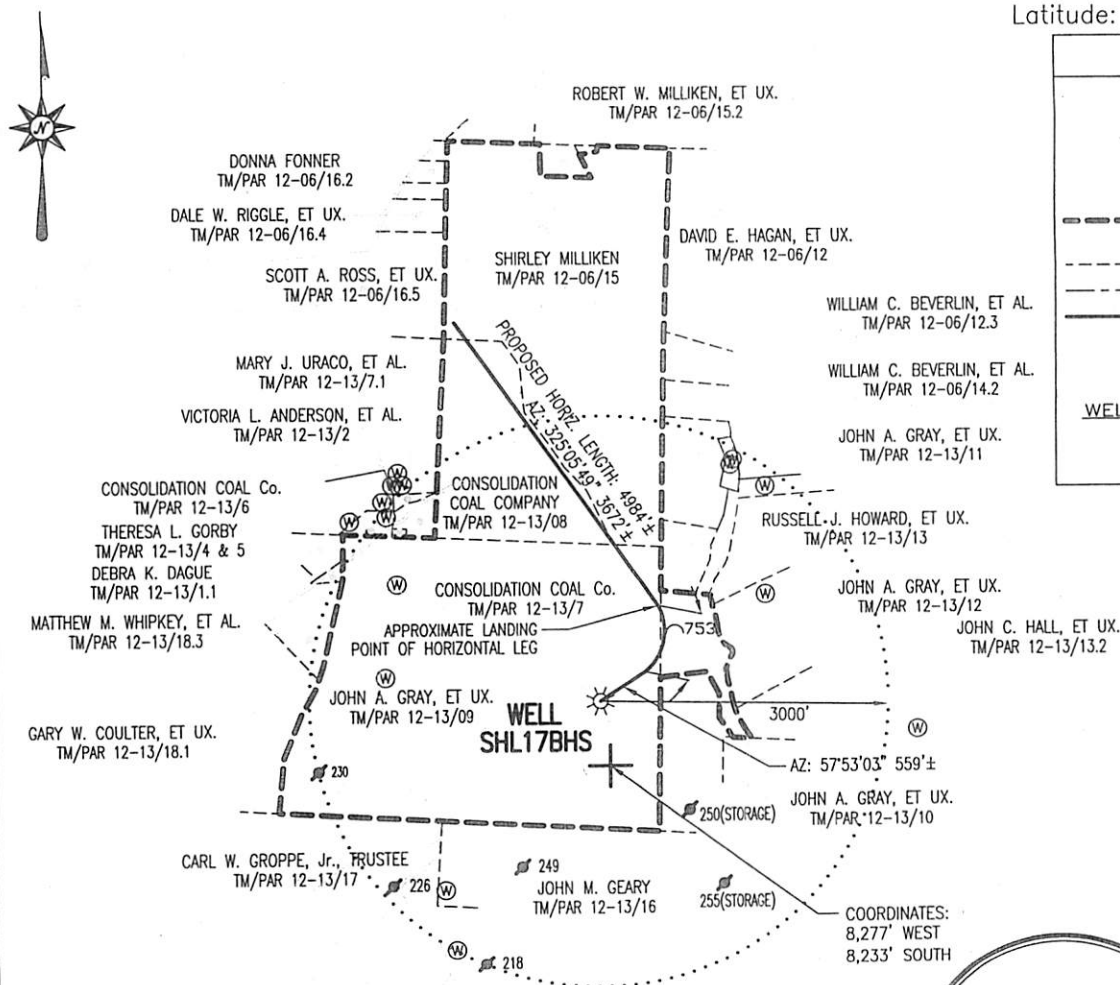
51-01585

Latitude: 40°00'00"

LEGEND

- TOPO MAP POINT
 - WELL
 - ALL ARE POINTS UNLESS OTHERWISE NOTED.
 - WATER SOURCE
 - MINERAL TRACT BOUNDARY
 - PARCEL LINES
 - WELL REFERENCE
 - PROPOSED HORIZONTAL WELL
 - ROAD
 - STREAM CENTER LINE
WELLS WITHIN 3000'
 - EXISTING WELLS
 - PLUGGED WELLS

Longitude: 80°30'00"



SURFACE HOLE LOCATION (SHL)
 UTM 17
 N:4425363.68
 E:540190.77
 NAD27, WV NORTH
 N:539764.917
 E:1711481.500
 LAT/LOG DATUM-WGS84
 LAT:39°58'38.92"
 LON:80°31'45.54"

APPROX. LANDING POINT
 UTM 17-NAD83
 N:4425666.64
 E:540370.51
 NAD27, WV NORTH
 N:540749.274
 E:1712087.661
 LAT/LOG DATUM-WGS84
 LAT:39°58'48.72"
 LON:80°31'37.89"

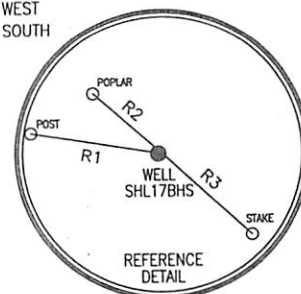
BOTTOM HOLE LOCATION (BHL)
 UTM 17-NAD83
 N:4425673.94
 E:539714.94
 NAD27, WV NORTH
 N:543760.809
 E:1709986.543
 LAT/LOG DATUM-WGS84
 LAT:39°59'18.24"
 LON:80°32'05.33"

GAS LESSORS	
TAX MAP/PARCEL	OIL & GAS ROYALTY OWNERS
12-13 09	JOHN A. GRAY, ET UX.
12-13 12	JOHN A. GRAY, ET UX.
12-13 08	CONSOLIDATION COAL Co.
12-06 15	SHIRLEY MILLIKEN

Blue Mountain Engineering
 11023 MASON DIXON HIGHWAY
 BURTON, WV 26562
 PHONE: (304) 662-6486

NOTES:

- There are no water wells or developed springs within 250' of proposed well.
- There are no existing buildings within 625' of proposed well.
- Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
- There are no native trout streams within 300' of proposed well.
- Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
- It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.



LINE	BEARING	DISTANCE
R1	N 80°46'45" W	285.34'
R2	N 48°33'55" W	197.61'
R3	S 47°13'58" E	260.54'

FILE #: SHL17BHS

DRAWING #: SHL17BHS

SCALE: 1" = 2000'

MINIMUM DEGREE OF ACCURACY: 1/2500

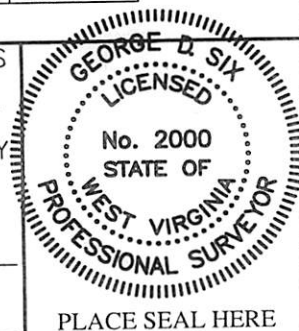
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: _____

R.P.E.: _____

L.L.S.: P.S. No. 2000



PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP

OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

DATE: JUNE 29, 2012

OPERATOR'S WELL #: SHL17BHS
SERIAL No.: WV0510634HSAPI WELL #: 47 51 01585 HGA
STATE COUNTY PERMIT

Well Type: ☐ Oil ☐ Waste Disposal ☒ Production ☐ Deep
☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: WHORTON HILL RUN ELEVATION: 1295.73'

COUNTY/DISTRICT: MARSHALL / SAND HILL QUADRANGLE: MAJORSVILLE, WV-PA 7.5'

SURFACE OWNER: JOHN A. GRAY, ET UX. ACREAGE: 241.56±

OIL & GAS ROYALTY OWNER: SEE ABOVE GAS LESSORS CHART ACREAGE: 474.123±

DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☐
 PLUG OFF OLD FORMATION ☐ PERFORATE NEW FORMATION ☐ PLUG & ABANDON ☐
 CLEAN OUT & REPLUG ☐ OTHER CHANGE ☐ (SPECIFY): _____

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,723'± TMD: 14,894'±

WELL OPERATOR NOBLE ENERGY INC.
 Address 333 TECHNOLOGY DRIVE
 City CANONSBURG State PA Zip Code 15317
 DESIGNATED AGENT STEVEN M. GREEN
 Address 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 1001
 City CHARLESTON State WV Zip Code 25301



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 19, 2012

WELL WORK PERMIT

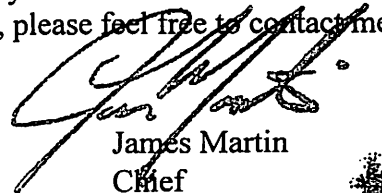
Horizontal 6A Well

This permit, API Well Number: 47-5101607, issued to CHESAPEAKE APPALACHIA, L.L.C., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

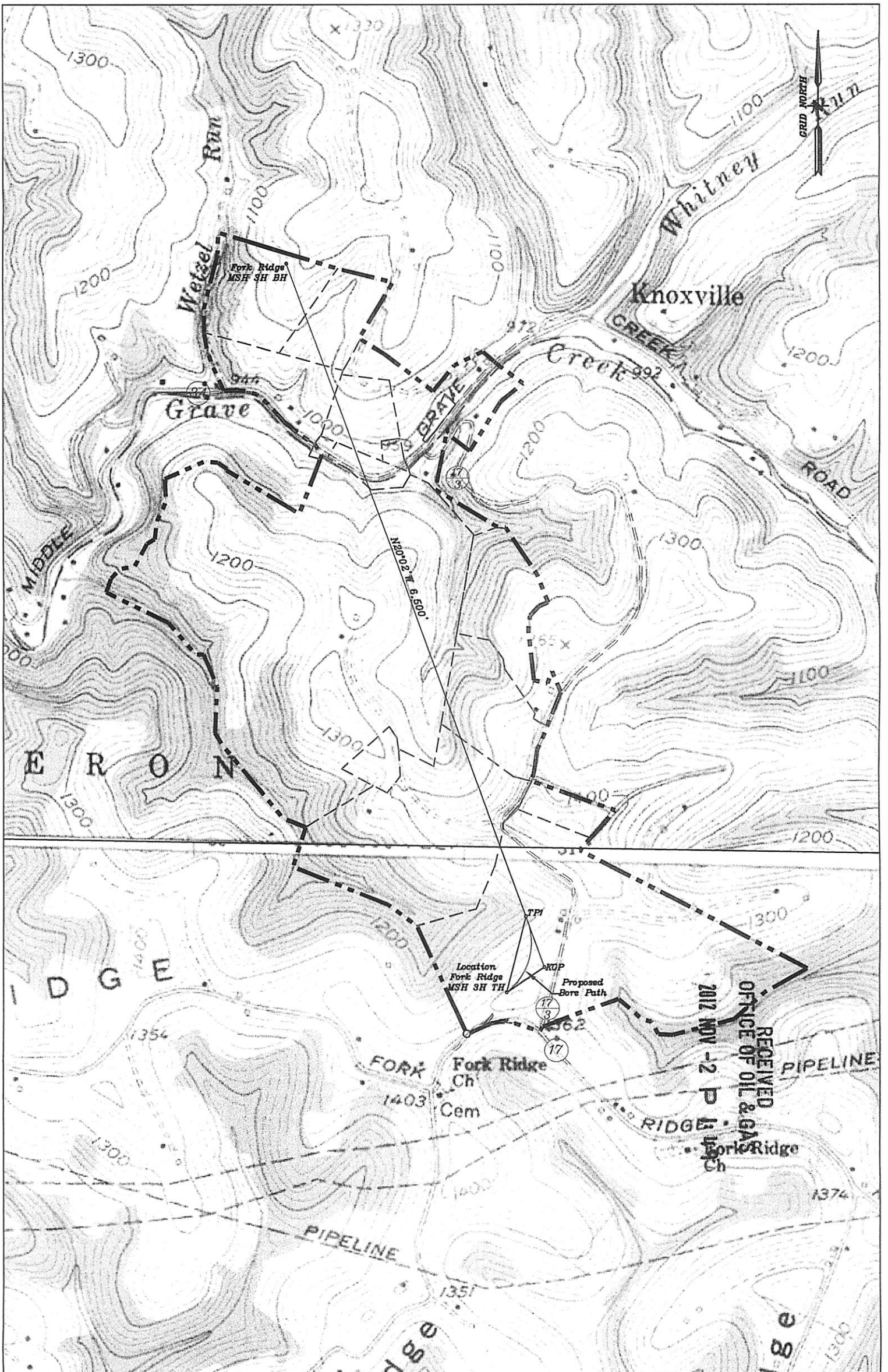
Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: FORK RIDGE MSH 3H
Farm Name: CONSOLIDATION COAL COMPA
API Well Number: 47-5101607
Permit Type: Horizontal 6A Well
Date Issued: 12/19/2012

Promoting a healthy environment.



Well: Fork Ridge MSH 3H
 Quad: Glen Easton 7 1/2'
 District: Cameron
 County: Marshall

0 500' 1,000' 2,000'
 Scale: 1"=1,000'

LATITUDE 39-52-30 N (TH)
LATITUDE 39-55-00 N (BH)

-Bottom Hole 6,056'

Fork Ridge

Glover
T.M. 16-11
20.62 Ac.

Gilmore
T.M. 18-10
14.5 Ac.

<p>Top Hole NAD 27-39.871488 N, 80.638554 W UTM NAD 83 (Meters)-4413664.9 N, 530927.5 E State Plane NAD 27-501556.1 N. 1680438.3 E</p>
<p>KOP NAD 27-39.872155 N, 80.637314 W UTM NAD 83 (Meters)-4413639.4 N, 531033.3 E State Plane NAD 27-501794.8 N. 1680789.5 E</p>
<p>TP1 NAD 27-39.873439 N, 80.637946 W UTM NAD 83 (Meters)-4413781.7 N, 530978.8 E State Plane NAD 27-502264.5 N. 1680618.2 E</p>
<p>Bottom Hole NAD 27-39.890126 N, 80.646153 W UTM NAD 83 (Meters)-4415630.8 N, 530269.5 E State Plane NAD 27-508371.5 N. 1678392.1 E</p>

L1- N14°15'E 731'
L2- N20°02'W 500'
L3- S01°22'E 1,495'
L4- N43°39'E 540'

A- D. Poling T.M. 18-17.1 0.905 Ac.
B- W. Poling T.M. 18-17 19.495 Ac.
C- Neely T.M. 2-3.2 4.836 Ac.
D- Wendt T.M. 2/1 4.34 Ac.
E- Myers T.M. 2/12.1 4 Ac.
F- W. Poling T.M. 18-15 11.87 Ac.
G- Poling T.M. 2-2 1.12 Ac.
H- Hinerman
I- Hope T.M. 18-10.1 10.674 Ac.
J- Poling T.M. 18-16.1 0.99 Ac.
K- Poling T.M. 18-16 8.08 Ac.
L- Poling T.M. 18-10.3 3.364 Ac.
M- J. Hinerman T.M. 2-3.1 3.73 Ac.

Wendt
T.M. 2/1.1
163.973 Ac

Roush
T.M. 2/7.
19.72 Ac.

Roush
T.M. 2/7
17.8 Ac.

Wendt
T.M. 2/8
52.4 An.

French
T.M. 2/19,1
.81 Ac.

Consolidation Coal Company
T.M. 2/12
84.67 Ac.

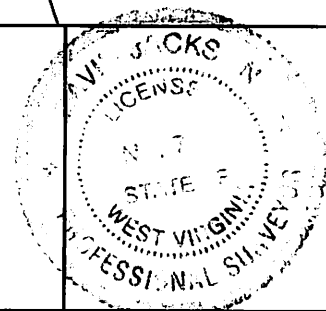
Notes: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 27.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
DRAWING NO. 1
SCALE 1" = 1000'
MINIMUM DEGREE OF
ACCURACY 1 in 2500
PROVEN SOURCE OF
ELEVATION GPS
submeter unit

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) David J. Jackson
R.P.E. _____ L.L.S. 708



STATE OF WEST VIRGINIA
Division of Environmental Protection
OFFICE OF OIL AND GAS

DATE September 4, 2012
OPERATOR'S WELL NO. Fork Ridge
API WELL NO.

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 — 51 — 1607 HEA
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT

LOCATION: ELEVATION 1391' WATER SHED Middle Grave Creek
DISTRICT Cameron COUNTY Marshall
QUADRANGLE Glen Easton 7 1/2' (TH) Moundsville 7 1/2' (BH)

SURFACE OWNER	Consolidation Coal Company	ACREAGE	94.67
OIL & GAS ROYALTY OWNER	Consolidation Coal Company	LEASE ACREAGE	387.267 ac.

LEASE NO. 1-284746-001 to 003 (TM2/12), 1-284746-001 to 004 (TM2/8), 1-274411-000 (TM2/7), 1-286494-000

LEASE NO. (TM2/1.1), BK 689/175 and BK 699/179 (TM16/10.3), BK 697/487 (TM16/16), BK 749/357 (TM16/10),
LEASE NO. BK 697/486 (TM16/15), BK 676/283 (TM16/11)

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR
STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW
FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
 TARGET FORMATION Marcellus ESTIMATED DEPTH TVD 6,822' + Horizontal Leg, TMD 13,680'

WELL OPERATOR Chesapeake Appalachia, L.L.C. DESIGNATED AGENT Eric B. Gillespie
ADDRESS P.O. Box 18496 Oklahoma City, OK 73154-0496 ADDRESS P.O. Box 6070 Charleston, WV 25362



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 19, 2012

WELL WORK PERMIT

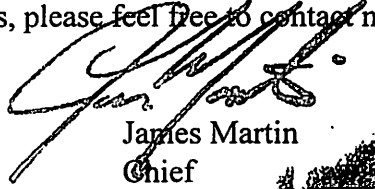
Horizontal 6A Well

This permit, API Well Number: 47-5101606, issued to CHESAPEAKE APPALACHIA, L.L.C., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

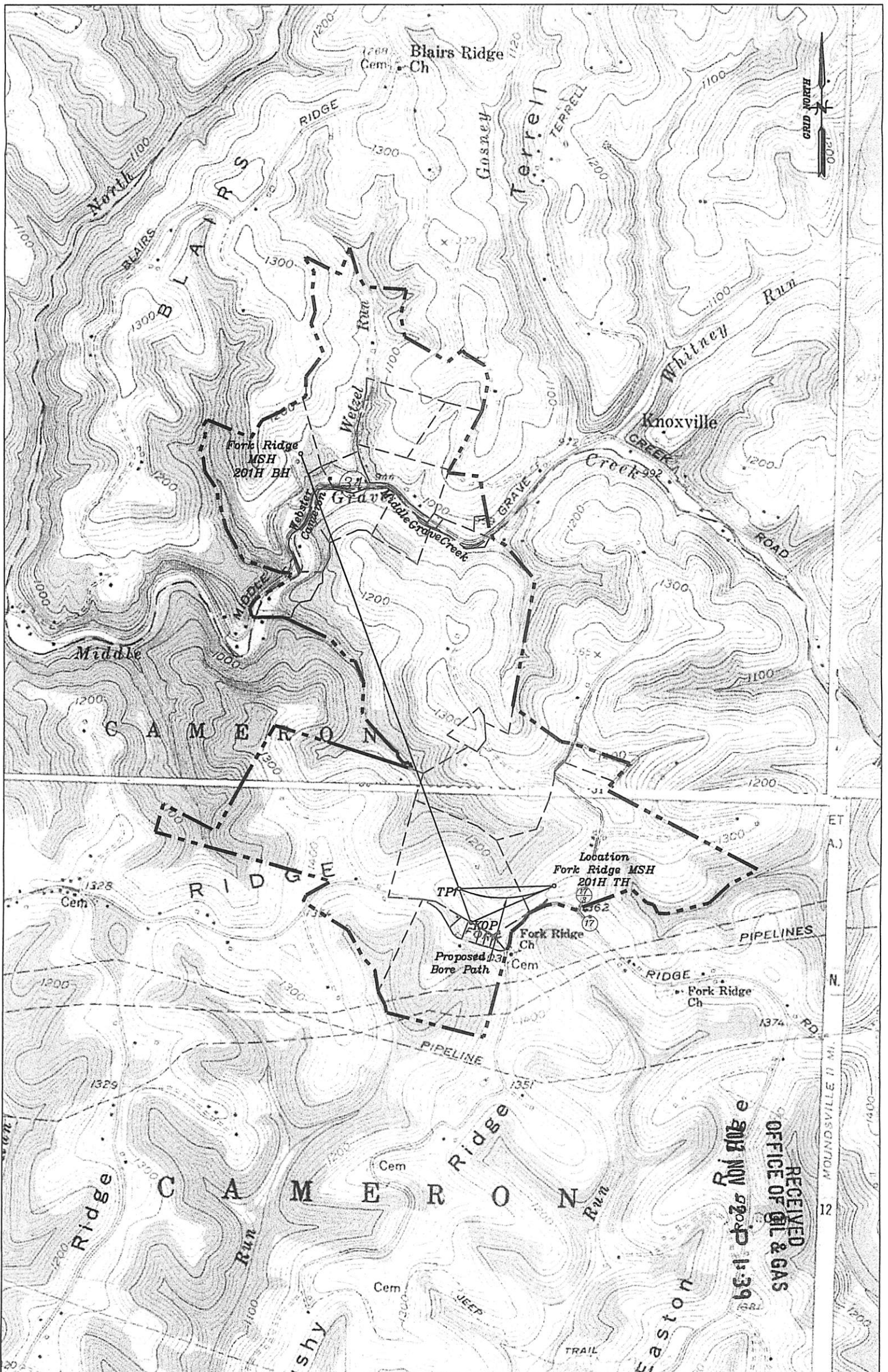
Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: FORK RIDGE MSH 201H
Farm Name: CONSOLIDATION COAL COMPA
API Well Number: 47-5101606
Permit Type: Horizontal 6A Well
Date Issued: 12/19/2012

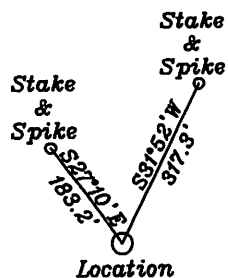
Promoting a healthy environment.



Well: Fork Ridge MSH 201H
 Quad: Glen Easton 7 1/2' (TH) Moundsville 7 1/2' (BH)
 District: Cameron
 County: Marshall

0 750' 1,500' 3,000'
 Scale: 1"=1,500'

References



- A- Consolidation Coal Company T.M. 2-12 94.67 Ac.
 B- Berleish T.M. 1-28 13.89 Ac.
 D- Wendt T.M. 2/1 4.34 Ac.
 E- Myers T.M. 2/12.1 4 Ac.
 F- W. Poling T.M. 16-16 11.87 Ac.
 G- Lantz & Whippley T.M. 1-25 8 Ac.
 H- Kidd T.M. 16-10.3 11.69 Ac.
 I- Hoge T.M. 16-10.1 10.674 Ac.
 J- Poling T.M. 16-16.1 0.99 Ac.
 K- Poling T.M. 16-16 8.08 Ac.
 L- Poling T.M. 16-10.3 3.354 Ac.
 M- Gilmore T.M. 16-10 14.6 Ac.
 N- Clover T.M. 16-9 6 Ac.
 O- Brothers of the Wheel T.M. 16-8 1 Ac.
 P- Roberts T.M. 1-24 11 Ac.

Top Hole

NAD 27-39.871443 N, 80.638635 W
 UTM NAD 83 (Meters)-4419659.9 N, 530920.6 E
 State Plane NAD 27-501540.0 N, 1680415.3 E

KOP

NAD 27-39.869990 N, 80.642740 W
 UTM NAD 83 (Meters)-4419397.3 N, 530570.2 E
 State Plane NAD 27-501025.5 N, 1679256.6 E

TPI

NAD 27-39.871274 N, 80.643371 W
 UTM NAD 83 (Meters)-4419539.5 N, 530515.7 E
 State Plane NAD 27-501495.3 N, 1679085.4 E

Bottom Hole

NAD 27-39.887960 N, 80.651580 W
 UTM NAD 83 (Meters)-4419388.7 N, 529806.4 E
 State Plane NAD 27-507602.3 N, 1676859.4 E

Location
 Fork Ridge
 MSH 201H

1097
 (CBM)

Notes: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 27.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
 DRAWING NO. 1
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY 1 in 2500
 PROVEN SOURCE OF ELEVATION GPS
submeter unit

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) _____
 R.P.E. _____ L.L.S. 708

- 1- Schults T.M. 10-3.3 0.63 Ac.
 2- Schults T.M. 10-3.2 0.46 Ac.
 3- Schults T.M. 10-3.6 0.51 Ac.
 4- Hall T.M. 10-3.1 1.62 Ac.
 5- Shudler T.M. 10-3.7 1.18 Ac.
 6- Shudler T.M. 10-3.6 1.068 Ac.
 7- Shudler T.M. 10-3.4 1.312 Ac.

McElroy Mine Coordinates
 Fork Ridge MSH 201H TH
 -56181.1 N 74669.9 E

STATE OF WEST VIRGINIA
 Division of Environmental Protection
 OFFICE OF OIL AND GAS

DATE September 18, 2012
 OPERATOR'S WELL NO. Fork Ridge MSH 201H
 API WELL NO. _____

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL STATE 47 COUNTY 51 PERMIT 1606 HEA
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X

LOCATION: ELEVATION 1391' WATER SHED Middle Grave Creek
 DISTRICT Cameron COUNTY Marshall
 QUADRANGLE Glen Easton 7 1/2' (TH) Moundsville 7 1/2' (BH)

SURFACE OWNER Consolidation Coal Company ACREAGE 94.67
 OIL & GAS ROYALTY OWNER Consolidation Coal Company LEASE ACREAGE 577.593 ac.
 LEASE NO. 1-284746-000 to 003 & 005(TM 2/12,8,9,&12.1), 1-312544-001 to 003(TM 10/3,3.7&3.5), 1-286515-000
 LEASE NO. (TM 1/22), 1-286494-000(TM 2/1.1), BK 691/599(TM 1/26), 1-312397-000(TM 16/8), BK 700/009
 LEASE NO. (TM 16/7)

PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION Marcellus ESTIMATED DEPTH TVD 6,804' + Horizontal Leg, 13,774'
 WELL OPERATOR Chesapeake Appalachia, L.L.C. DESIGNATED AGENT Eric B. Gillespie
 ADDRESS P.O. Box 18496 Oklahoma City, OK 73154-0496 ADDRESS P.O. Box 6070 Charleston, WV 25362

LATITUDE 39-52-30 N (TH)
 LATITUDE 39-55-00 N (BH)

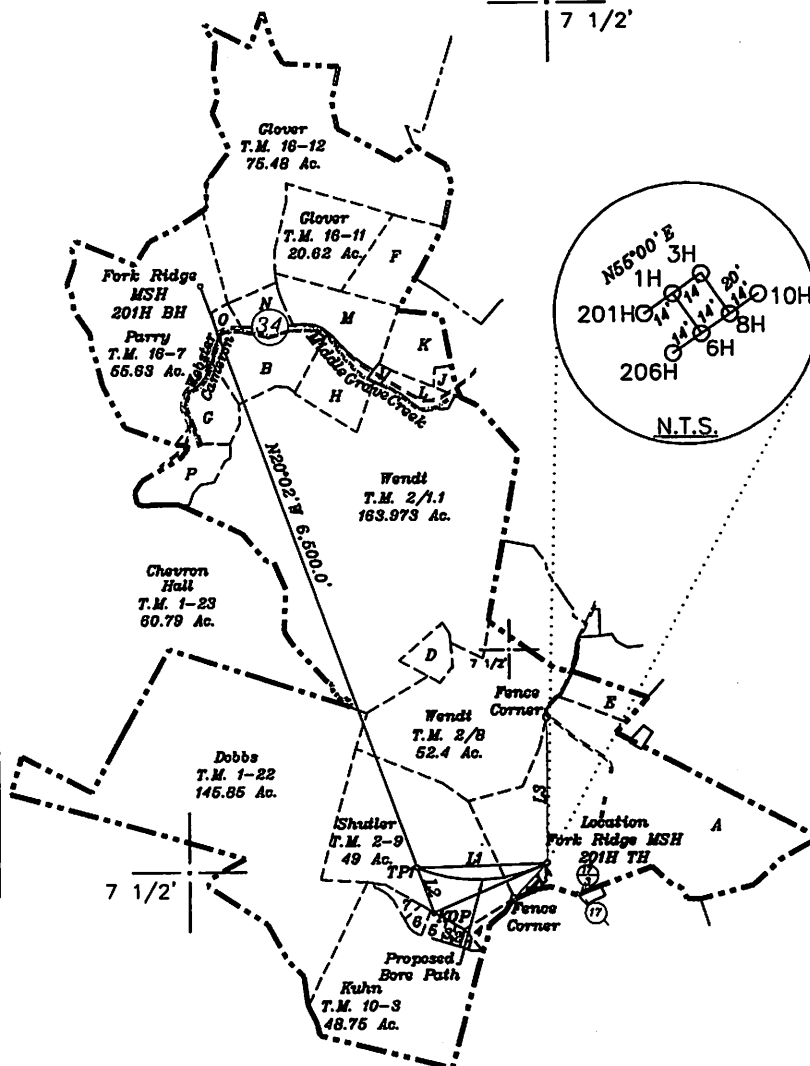
Bottom Hole 7,589'

Top Hole 3,843'

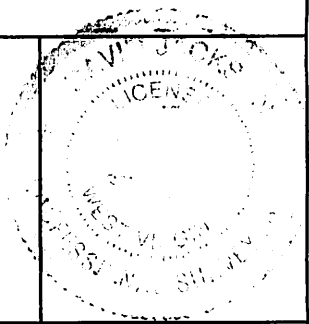
7 1/2'

Top Hole 1,247'

LONGITUDE 80-37-30 W
 Bottom Hole 10,361'



- L1- S88°04'W 1330.8' - TPI
 L2- N20°02'W 500.0' - KOP
 L3- S00°29'E 1610.7' - F.C.
 L4- N43°02'E 512.9' - F.C.





west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 19, 2012

WELL WORK PERMIT

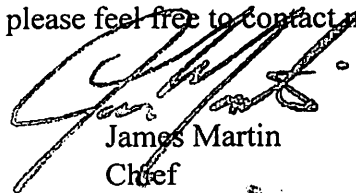
Horizontal 6A Well

This permit, API Well Number: 47-5101608, issued to CHESAPEAKE APPALACHIA, L.L.C., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

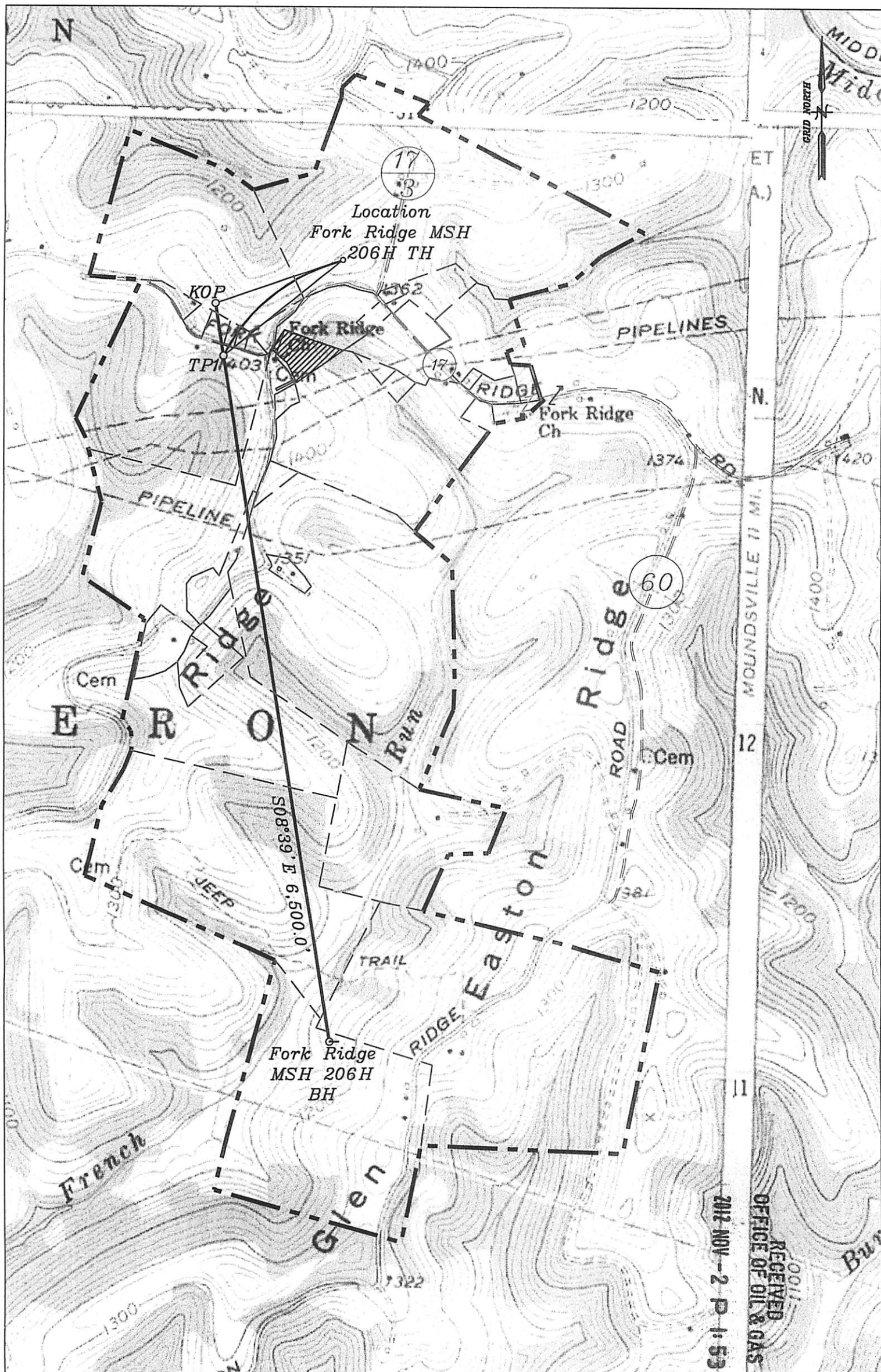
Operator's Well No: FORK RIDGE MSH 206H
Farm Name: CONSOLIDATION COAL COMPA

API Well Number: 47-5101608

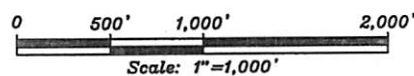
Permit Type: Horizontal 6A Well

Date Issued: 12/19/2012

Promoting a healthy environment.



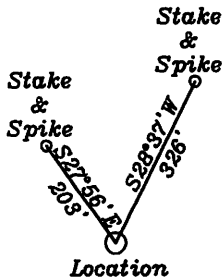
Well: Fork Ridge MSH 206H
Quad: Glen Easton 7 1/2'
District: Cameron
County: Marshall



2012 NOV - 2 P 1:53

RECEIVED
OFFICE OF OIL & GAS

References



- A- Adams T.M. 10/25 5.172 Ac.
B- Ward T.M. 10-28 0.64 Ac.
C- Wade T.M. 10-25.1 2.84 Ac.
D- Carmichael T.M. 10-23.6 2.025 Ac.
E- Murray T.M. 10-24 12.08 Ac.
F- A Kuhn T.M. 10-20.3 4.0 Ac.
G- Carmichael T.M. 10-23.3 0.441 Ac.
H- Fork Ridge Universalist Church T.M. 10-9
I- Texas Eastern Transmission T.M. 10-24.1 Ac.
J- Ritchie D.B. 431-362 Residue of 3rd Parcel
K- Consolidation Coal Co. T.M. 10-27 1.787 Ac.
L-

LATITUDE 39-52-30 N

Top Hole 3,832'

Bottom Hole 4,026'

7 1/2'

Top Hole 1,264'

Bottom Hole 8,097'

LONGITUDE 80-37-30 W

- M- Howard T.M. 10-23.4 1.27 Ac.
N- Murray T.M. 10-8 12.40 Ac.
O- Yoders T.M. 10-18.1 19.85 Ac.
P- A Kuhn T.M. 10-20.4 1.0 Ac.
Q- Lyons T.M. 10-18 32.0 Ac.
R- Aston T.M. 10-19 80 Ac.
S- R. Lyons T.M. 10-7.2 1.501 Ac.
T- J. Lyons T.M. 10-7.3 1.575 Ac.
U- Texas Eastern Transmission T.M. 10-23.6 1.005 Ac.
V- Yoho T.M. 10-23 58.684 Ac.
W- Consolidation Coal Company T.M. 2-12 94.67 Ac.
X- Elson T.M. 10-20.1 4.52 Ac.
Y- Kuhn T.M. 10-20.2 5 Ac.
Z- L. Kuhn T.M. 10-20 79.12 Ac.

Top Hole
NAD 27-39.871398 N, 80.638593 W
UTM NAD 83 (Meters)-4413555.0 N, 530924.2 E
State Plane NAD 27-501523.6 N, 1680426.8 E

KOP
NAD 27-39.870241 N, 80.642756 W
UTM NAD 83 (Meters)-4413425.1 N, 530568.8 E
State Plane NAD 27-501117.0 N, 1679253.3 E

TPI
NAD 27-39.868887 N, 80.642465 W
UTM NAD 83 (Meters)-4413274.9 N, 530594.2 E
State Plane NAD 27-500622.7 N, 1679328.6 E

Bottom Hole
NAD 27-39.852633 N, 80.638979 W
UTM NAD 83 (Meters)-4411472.2 N, 530899.6 E
State Plane NAD 27-494690.3 N, 1680231.9 E

Location
Fork Ridge
MSH 206H

1097
(CBM)

Notes: Ties to wells and corners are
based on State Plane Grid North-WV
North Zone NAD 27.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
DRAWING NO. 1
SCALE 1" = 2000'
MINIMUM DEGREE OF
ACCURACY 1 in 2500
PROVEN SOURCE OF
ELEVATION GPS
submeter unit

I THE UNDERSIGNED, HEREBY CERTIFY THAT
THIS PLAT IS CORRECT TO THE BEST OF MY
KNOWLEDGE AND BELIEF AND SHOWS ALL THE
INFORMATION REQUIRED BY LAW AND THE REGU-
LATIONS ISSUED AND PRESCRIBED BY THE DEPART-
MENT OF ENERGY.

(SIGNED) Wanda L. Reason
R.P.E. _____ L.L.S. 708

STATE OF WEST VIRGINIA
Division of Environmental Protection
OFFICE OF OIL AND GAS

DATE October 4, 2012
OPERATOR'S WELL NO. Fork Ridge MSH 206H
API WELL NO. _____

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL 47 51 1603 H6A
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X

LOCATION: ELEVATION 1391' WATER SHED Middle Grave Creek
DISTRICT Cameron COUNTY Marshall
QUADRANGLE Glen Easton 7 1/2'

SURFACE OWNER Consolidation Coal Company ACREAGE 94.67
OIL & GAS ROYALTY OWNER Consolidation Coal Company LEASE ACREAGE 555.418 ac.
LEASE NO. 1-284746-001 to 003, (TM 2/12, 2/9), 1-312544-001 to 003
LEASE NO. (TM 10/3, 3.3, 3.2, 3.6, 3.1, 3.7, & 3.5), 3rd Party D.B. 694/438 (TM 10/20, 20.1, & 7)
LEASE NO. 1-324659-000 (TM 10/19)

PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR
STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW
FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG
TARGET FORMATION Marcellus ESTIMATED DEPTH TVD 6,815' + Horizontal Leg, TMD 13,281'
WELL OPERATOR Chesapeake Appalachia, L.L.C. DESIGNATED AGENT Eric B. Gillespie
ADDRESS P.O. Box 18496 Oklahoma City, OK 73154-0496 ADDRESS P.O. Box 6070 Charleston, WV 25362



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 19, 2012

WELL WORK PERMIT

Vertical Well

This permit, API Well Number: 47-1706175, issued to KEY OIL COMPANY, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: J. H. LOWTHER 2
Farm Name: J.H. LOWTHER HRS.

API Well Number: 47-1706175

Permit Type: Vertical Well

Date Issued: 12/19/2012

Promoting a healthy environment.

DEC. LONG. 80.69685
SURVEYED LONG. 80°41'48.6"

8,545'

LATITUDE 39° 15' 00"

J. H. LOWTHER LEASE 83 AC.± WELL NO. 2

PROPOSED WELL
STATE PLANE NAD 27
COORDINATES

N) 270353
E) 1660995

UTM NAD 83
COORDINATES

N) 4,343,028.4M
E) 526,178.4M

WYCKOFF et al
151.99 ACRES±
SURFACE

WYCKOFF et al
151.99 ACRES±
SURFACE

TM 8 PAR 03
MARY LOU
HOLLAND TRUST
39.34 ACRES±
SURFACE

TM 8 PAR 14
DAVID BOWYER et al
101.46 ACRES±
SURFACE

TM 8 PAR 5
NORMA C. BOWYER
68.1 ACRES±
SURFACE

TM 8 PAR 4
J.H. LOWTHER HRS.
99.1 ACRES±
SURFACE

TM 8 PAR 17
DALE W. KEPLINGER II
59.86 ACRES±
SURFACE

TM 8 PAR 16.1
ROBERT C. TAYLOR
12.49 ACRES±
SURFACE

REFERENCE NOTES

LEASE AS SHOWN TAKEN FROM
PLAT FOR API. # 5097 AS PREPARED
BY SMITH LAND SURVEYING DATED 7/11/05
OWNERSHIP TAKEN FROM PUBLIC
RECORDS OF DODDRIDGE COUNTY,
WV IN OCTOBER 2012.
LAT./LONG. BY DIFFERENTIAL
SUBMETER MAPPING GRADE GPS

REFERENCES

12" Bigtooth
Aspen

N 75° W 138.6'

SLOPE = 142.2°

J. H. LOWTHER
NO. 2

S 39° W
1157'

4" Sugar
Maple

Scale
1"=100'

Surf./Lease boundary

(*) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER 110545(WB18-6)

DRAWING NUMBER 110545_WP2

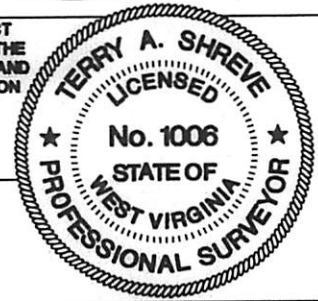
SCALE 1"=800'

MINIMUM DEGREE
OF ACCURACY 1/200

PROVEN SOURCE
OF ELEVATION SUB-METER MAPPING
GRADE GPS

I THE UNDERSIGNED HEREBY CERTIFY THAT THIS PLAT IS CORRECT
TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE
INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND
PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

P.S.
1006



STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

DATE: OCTOBER 29, 2012

OPERATORS WELL NO. J.H. LOWTHER NO. 2

API WELL NO.

47-017

STATE COUNTY

PERMIT

WELL TYPE: OIL ☐ GAS ☒ LIQUID INJECTION ☐ WASTE DISPOSAL ☐
(IF "GAS") PRODUCTION ☒ STORAGE ☐ DEEP ☐ SHALLOW ☒

LOCATION ELEVATION 984' WATERSHED TOMS FORK

DISTRICT NEW MILTON

COUNTY DODDRIDGE

QUADRANGLE NEW MILTON 7.5'

LEASE NUMBER

SURFACE OWNER J.H. LOWTHER HRS.

ACREAGE 99.1 AC.±

OIL & GAS ROYALTY OWNER J.H. LOWTHER HRS. OR ASSIGNS

LEASE ACREAGE 83 AC.±

PROPOSED WORK: DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒ PLUG OFF OLD FORMATION ☐
PERFORATE NEW FORMATION ☐ OTHER PHYSICAL CHANGE (SPECIFY) _____

PLUG& ABANDON ☐ CLEAN OUT & REPLUG ☐

TARGET FORMATION GORDON

ESTIMATED DEPTH 3,000'

WELL OPERATOR KEY OIL COMPANY

DESIGNATED AGENT JAN CHAPMAN

ADDRESS 22 GARTON PLAZA, WESTON, WV 26452

ADDRESS 22 GARTON PLAZA, WESTON, WV 26452

COUNTY NAME PERMIT



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 19, 2012

WELL WORK PERMIT

Vertical Well

This permit, API Well Number: 47-1706176, issued to KEY OIL COMPANY, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: J. H. LOWTHER 1
Farm Name: J.H. LOWTHER HRS.

API Well Number: 47-1706176

Permit Type: Vertical Well

Date Issued: 12/19/2012

Promoting a healthy environment.



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 18, 2012

WELL WORK PERMIT

Horizontal Well

This permit, API Well Number: 47-8704726, issued to HARD ROCK EXPLORATION, INC., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

A handwritten signature in black ink, appearing to read 'James Martin', is written over a horizontal line.

James Martin
Chief

Operator's Well No: HR-476
Farm Name: ELLISON, JOHN

API Well Number: 47-8704726

Permit Type: Horizontal Well

Date Issued: 12/18/2012

Promoting a healthy environment.



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 18, 2012

WELL WORK PERMIT

Horizontal Well

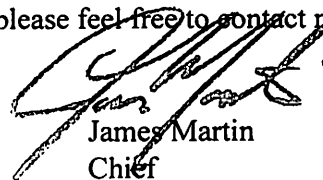
This permit, API Well Number: 47-8704727, issued to HARD ROCK EXPLORATION, INC., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto.

Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

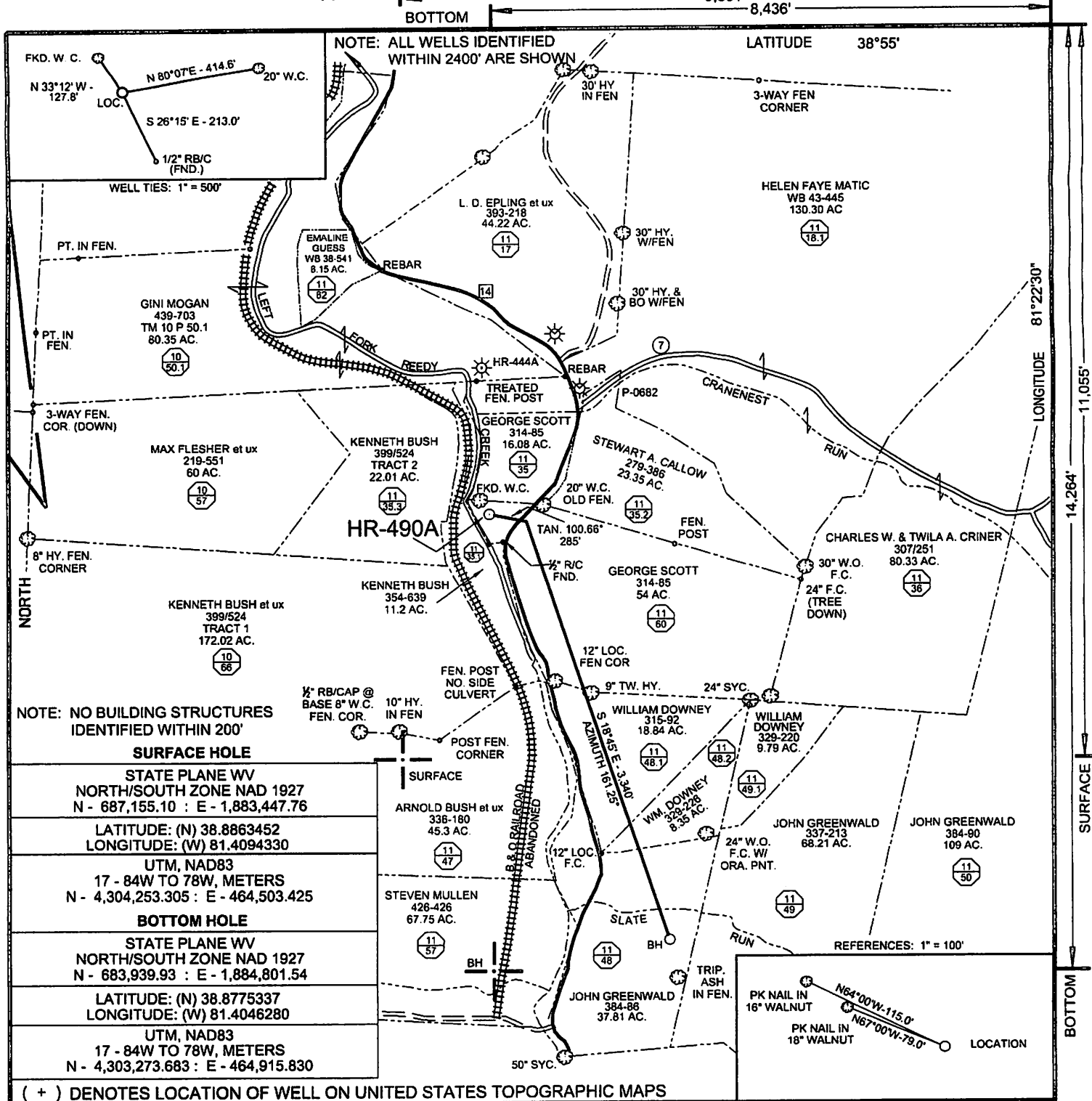
Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: HR-490A
Farm Name: SCOTT, GEORGE
API Well Number: 47-8704727
Permit Type: Horizontal Well
Date Issued: 12/18/2012

Promoting a healthy environment.



FORM WW-6

COUNTY NAME PERMIT



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

December 19, 2012

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-1706153, issued to ANTERO RESOURCES APPALACHIAN CORPORATION, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

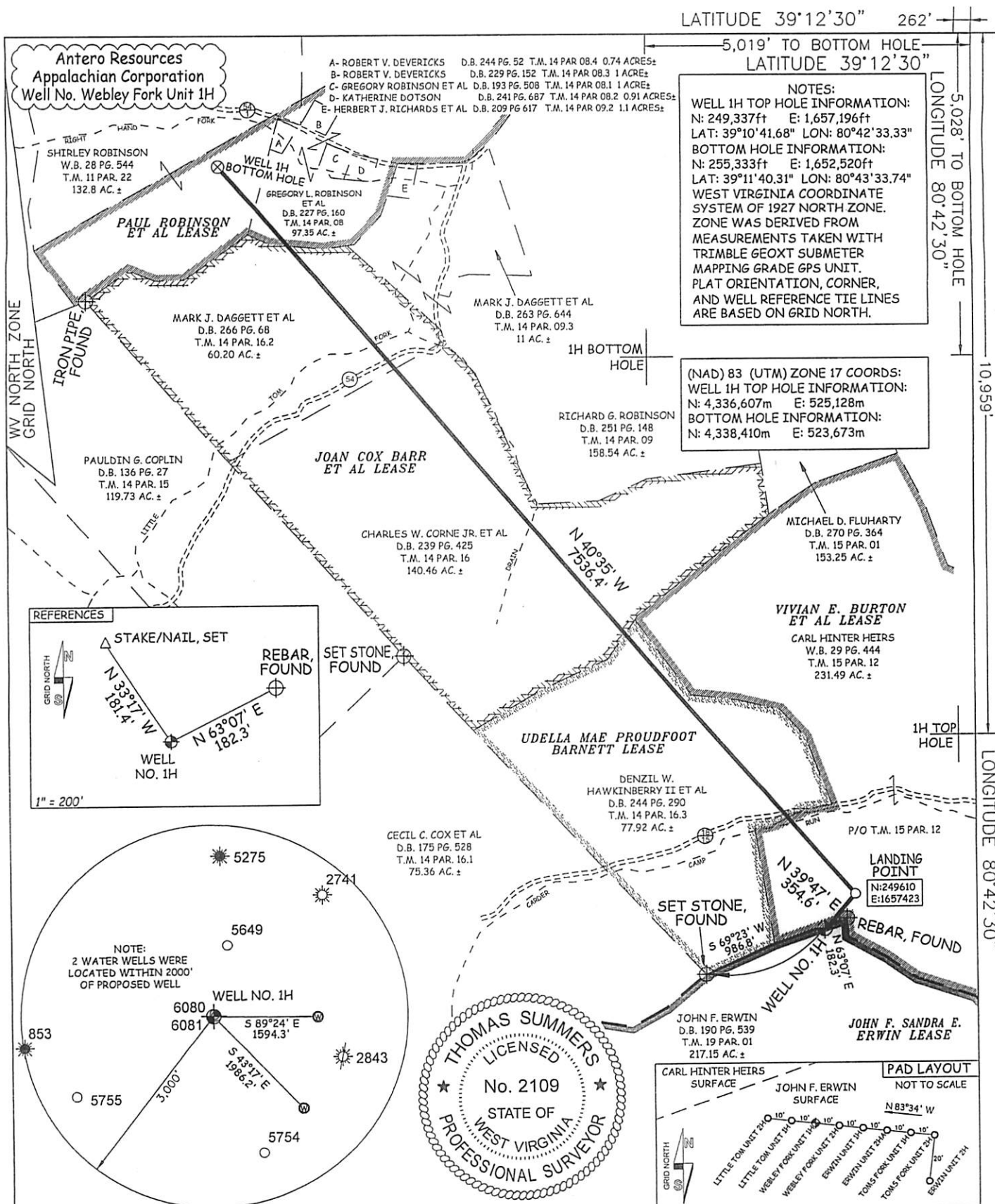
Operator's Well No: WEBLEY FORK UNIT 1H
Farm Name: ERWIN, JOHN F.

API Well Number: 47-1706153

Permit Type: Horizontal 6A Well

Date Issued: 12/19/2012

Promoting a healthy environment.



JOB # 12-069WA
DRAWING # WEBLEYFORK1H
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
DIVISION OF OIL AND GAS

WELL TYPE: OIL ☐ GAS ☒ LIQUID INJECTION ☐ WASTE DISPOSAL ☐
(IF "GAS") PRODUCTION ☒ STORAGE ☐ DEEP ☐ SHALLOW ☒
LOCATION: ELEVATION 1,227' WATERSHED TOMS FORK
QUADRANGLE NEW MILTON 7.5' DISTRICT NEW MILTON COUNTY DODDRIDGE

SURFACE OWNER JOHN F. ERWIN
OIL & GAS ROYALTY OWNER JOHN F. & SANDRA E. ERWIN; VIVIAN E. BURTON ET AL;
UDELLA MAE PROUDFOOT BARNETT; JOAN COX BARR ET AL; PAUL ROBINSON ET AL

PROPOSED WORK: DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒
PLUG OFF OLD FORMATION ☐ PERFORATE NEW FORMATION ☒ OTHER PHYSICAL CHANGE IN WELL
(SPECIFY) ☐ PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,100' TVD 15,000' MD

WELL OPERATOR ANTERO RESOURCES APPALACHIAN CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1625 17TH STREET ADDRESS 5400 D BIG TYLER ROAD
DENVER, CO 80202 CHARLESTON, WV 25313

FORM WW-6